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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/789,995	03/02/2004	Masafumi Kyogaku	03500.017937.	9680
5514	7590	09/21/2005	EXAMINER	
FITZPATRICK CELLA HARPER & SCINTO 30 ROCKEFELLER PLAZA NEW YORK, NY 10112			RAABE, CHRISTOPHER M	
			ART UNIT	PAPER NUMBER
			2879	

DATE MAILED: 09/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/789,995	Applicant(s) KYOGAKU, MASAFUMI	
	Examiner Christopher M. Raabe	Art Unit 2879	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 2-5 is/are allowed.
- 6) ☒ Claim(s) 1 and 6-11 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>1/31/05</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1,6-11 rejected under 35 U.S.C. 102(b) as being anticipated by Kawate et al. (US Pre-grant Publication 2002/0060516).

With regard to claim 1,

Kawate et al. disclose an electron-emitting device, comprising: a cathode electrode (3 of fig 2b) and a gate electrode (2 of fig 2b), which are formed on a surface of a substrate (1 of fig 2b) and opposed to each other with a space therebetween (fig 2b); and a film containing an electron-emitting material, which is located on the cathode electrode (5 of fig 2b), wherein the film containing the electron-emitting material has two end portions in a plane substantially parallel to the surface in a direction substantially perpendicular to a direction along which the cathode electrode and the gate electrode are opposed to each other (fig 2a).

The phrase “wherein a structure is used in which electric field strengths applied between each of the two end portions of the film containing the electron-emitting material and the gate electrode are made weaker than an electric field strength applied between a region between the two end portions of the film containing the electron-emitting material and the gate electrode at a time of driving” does not structurally distinguish the claimed invention from the prior art, as is required of apparatus claims.

With regard to claim 6,

Kawate et al. disclose an electron-emitting device, wherein the film containing the electron-emitting material comprises a plurality of fibrous conductive materials (4 of fig 2b).

With regard to claim 7,

Kawate et al. disclose an electron-emitting device, wherein the film containing the electron-emitting material contains mainly carbon (paragraph 80).

With regard to claim 8,

Kawate et al. disclose an electron-emitting device, wherein the film containing the electron-emitting material comprises a plurality of carbon fibers (paragraph 80).

With regard to claim 9,

Kawate et al. disclose an electron-emitting device, wherein each of the plurality of carbon fibers includes at least one of a carbon nanotube, a graphite nanofiber, an amorphous carbon fiber, and a diamond fiber (paragraph 80).

With regard to claim 10,

Kawate et al. disclose an electron source, comprising: a plurality of electron-emitting devices (paragraph 111).

With regard to claim 11,

Kawate et al. an image display apparatus, comprising: an electron source; and a light emitting member (paragraph 111).

Allowable Subject Matter

3. Claims 2-5 are allowed.

With regard to claims 2-5,

Kawate et al. disclose an electron-emitting device, comprising: a cathode electrode (3 of fig 2b) and a gate electrode (2 of fig 2b), which are formed on a surface of a substrate (1 of fig 2b) and opposed to each other with a space therebetween (fig 2b); and a film containing an electron-emitting material, which is located on the cathode electrode (5 of fig 2b), wherein the film containing the electron-emitting material has two end portions in a plane substantially parallel to the surface in a direction substantially perpendicular to a direction along which the cathode electrode and the gate electrode are opposed to each other (fig 2a).

The prior art discloses cathode electrodes and gate electrodes satisfying the shape requirements of claims 2-4.

However, the prior art does not disclose the relationship of the shape of the cathode or gate electrode to the film containing an electron emitting material required by claims 2-4, nor the shape of the electron emitting material required by claim 5.

Conclusion


4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US Patents 5382867, 6259422, 6278234, US Pre-grant Publications 2002/0074947, 2002/0031972, 2003/0006684, 2002/0109455.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher M. Raabe whose telephone number is 571-272-8434. The examiner can normally be reached on m-f 7am-3:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on 571-272-2457. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CR


ASHOK PATEL
PRIMARY EXAMINER